Inverter SW Series
User Manual

IMPORTANT SAFETY INFORMATION

(SAVE THESE INSTRUCTIONS)

This manual contains important safety instructions. Please read and follow all instructions carefully during installation and operation of the unit. Read this manual thoroughly before attempting to unpack, install, or operate the unit

Insure the wall outlet and inverter are located near the equipment being attached for proper accessibility.

To reduce risk of damage and injury, please use batteries with good quality.

Provide adequate ventilation for the battery compartment. The battery enclosure should be designed to prevent accumulation and concentration of hydrogen gas at the top of the compartment.

DO NOT expose the unit to rain, snow or liquids of any type. The unit is designed for indoor use only.

DO NOT obstruct the ventilation openings.

DO NOT connect **neutral of the power distribution box** on the wall to the **output neutral of Inverter.** Otherwise the reversed polarity will damage the Inverter and the connected equipment.

CAUTION! Risk of electric shock, do not remove cover. No user serviceable parts inside.

The battery can energize hazardous live parts inside even when the AC input power is disconnected. To avoid electrical shock, turn off the Inverter and unplug it from the AC power source before servicing the battery. Servicing the battery can only be performed by trained personnel.

INSTALLING YOUR Inverter SYSTEM

UNPACKING

Inspect the unit upon receipt. The box should contain the following:

Inverter×1; User Manual×1; Power cord×1

HOW TO DETERMINE THE POWER REQUIREMENTS OF YOUR EQUIPMENT

1. Insure that the equipment plugged into the AC outlet does not exceed the Inverter unit's rated capacity (refer to TECHNICAL SPECIFICATIONS). If rated unit capacities are exceeded, an overload condition may occur and cause the Inverter unit to shut down or the circuit fuse burn down.

2. If the power requirements of your equipment are listed in units other than Volt-Amps (VA), convert Watts (W) or Amps (A) into VA by doing the calculations below. Note: The below equation only calculates the maximum amount of VA that the equipment can use, not what is typically used by the equipment at any one time. Users should expect usage requirements to be approximately 60% of below value.

HARDWARE INSTALLATION GUIDE

Before installation, please read and understand the following instructions:

1. Placement

The Inverter must be installed in a protected environment away from heat- emitting appliances such as a radiator or heat register. Do not install this product where excessive moisture is present.

2. Ventilation

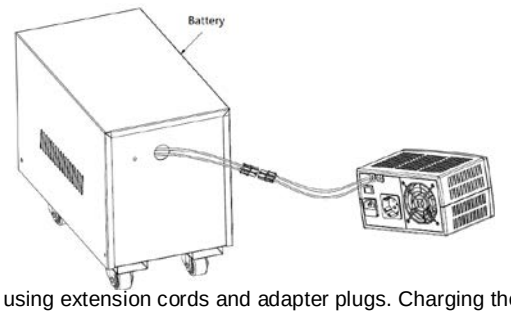
The location should provide adequate air flow around the Inverter with 10 CM minimum clearance on all sides for proper ventilation.

3. Connect the Battery

Connect the external battery pack with the DC cables from the back of the Inverter. Follow battery polarity guide located near battery cables as below.

"+" Red cable for battery positive polarity;

"-" Black cable for battery negative polarity.



4. Connect to AC and Charge the Battery

Connect the Inverter to a wall outlet. Avoid using extension cords and adapter plugs. Charging the battery for at least 8 hours is recommended to insure that the battery is fully charged. To recharge the battery, simply leave the unit plugged into a wall outlet. To maintain optimal battery charge, leave the Inverter plugged into an AC outlet at all times.

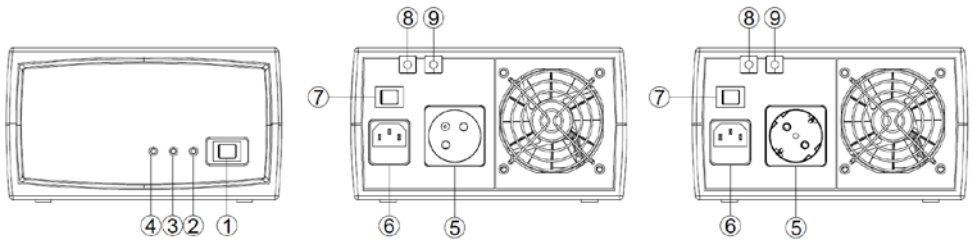
This Inverter can be charged even when Inverter is not turned on.

5. Connect the Load

Connect the equipment to the Inverter outlet. Please make sure that the total loads of your equipments are less than the maximum total power load of the Inverter.

BASIC OPERATION

DESCRIPTION



1. Power Switch

Press the power switch to turn the Inverter ON or OFF.

2. AC Mode LED

The green LED will light when utility power is normal.

3. Battery Mode LED

The yellow LED will light when power mains are abnormal and the unit will work in battery mode.

4. Fault LED

The red LED will light when fault or over load occurs.

5. AC outlet**

The unit provides one outlet for connected equipment to insure temporary uninterrupted operation during a power failure and against surges and spikes.

****Note: 2 outlet types available,** including Schuko and FR, type.

6. AC Inlet

Connect to utility power through the input power cord.

7. Input Voltage Range Selector

Input voltage range is defined in specification section. Output voltage is the same as input voltage in AC mode.

A. Select **"Narrow"** setting for general electrical appliance such as TUBE LIGHT, ENERGY SAVING LAMP, TV, JUICER & MIXER etc. It is not suitable for high-power motor or inductive load, such as the fridge of 1KW, the motor of 800W, AIR COOLER（having risk of rebooting） and so on. In this mode, the Inverter operating voltage in AC mode is within 190~260Vac with the same output voltage. The line sensitivity is higher.

B. Select **"Wide"** setting to save energy. In this mode the operating range of voltage for the Inverter is 100-290Vac. Therefore the output voltage will be the same as the MAINS input voltage. The Inverter unit in this mode has a lower sensitivity with a longer transfer time for switching from AC mode to battery mode in the event of power failure. You can safely connect and use home appliances which are not sensitive to transfer time limitations such as florescent tubes, bulbs, TV etc.

8. DC Input Cable (Red)

Connect to battery positive polarity.

9. DC Input Cable (Black)

Connect to battery negative polarity.

Functional Test

AC Mode

The Inverter delivers power to the load derived from the utility and maintains proper battery charge.

On-Battery Mode

The Inverter operates on battery when the utility voltage has fallen outside the limits. Local users are alerted to this mode of operation by visual and audible indicators. The Inverter provides power to the load from the battery and the output voltage of the Inverter are regulated within a narrow range

1. Switch On

Press the power switch then the status LED will light up.

2. Switch Off

Press again the power switch, the status LED will go off.

3. Cold Start / Start on Battery:

This Inverter can be turned on even when AC is not present.

Press the power switch then the status LED will light up.

ROUTINE MAINTENANCE AND STORAGE

ROUTINE MAINTENANCE

1. Use dry soft clothes to clean the panel and plastic parts. Do not use any detergent that contains alcoholic ingredient.

2. Unplug the Inverter from power inlet if the Inverter will not operate for long period of time.

STORAGE

1. First turn off your Inverter and disconnect its power cord from the wall outlet. Disconnect all cables connected the Inverter to avoid battery drain.

2. The Inverter should be stored in a cool dry location.

3. Make sure the battery is fully charged before the Inverter is stored.

4. For extended storage in moderate climates, the battery should be charged for 12 hours every 3 months by plugging the power cord into the wall receptacle and turning on the main switch. Repeat it every 2 months in high temperature locations.

DEFINITIONS FOR INDICATORS

Condition	Fault ⚠	Battery Mode	AC Mode	Alarm
Normal Mode/ Off charge mode (Battery is fully charged)	Off	Off	On	Off
Normal Mode (Battery is charging)	Off	Off	Normally On but blink every 5 seconds	Off
Battery Mode (above low battery voltage)	Off	Normally On but blink every 30 seconds	Off	Beeps every 30 seconds
Battery Mode (under low battery voltage)	Off	Normally On but blink every 2 seconds	Off	Beeps every 2 seconds
Off charge mode (Auto bypass)	Off	Off	Normally On but blink every 5 seconds	Off
Fault	On	Off	Off	On
Fault(Temperature fail)	On	Off	Off	On
Fault(Fan fail)	On	Off	Off	On
Overload	Normally On but blink every 2 seconds	Off	Off	Beeps every 0.5 seconds

TROUBLE SHOOTING

Problem	Possible Causes	Remedy
No LED display	1. Battery Weak	1. Re-charge battery
	2. Battery defective	2. Battery replacement.
	3. Power switch is not pressed	3. Press and hold power switch.
Mains normal but not works in AC mode	1. AC Input missing	1. Check AC input connection.
	2. Input Fuse is blown	2. Unplug the power cord of the Inverter then replace the blown fuse
Alarm buzzer beeps continuously	Overload	Verify that the load matches the capability specified in the specs.
Backup time is shortened	Overload	Remove some non-critical load.
	Battery voltage is too low.	Charge battery for 8 hours or more.

If any abnormal situations occur that are not listed above, please contact service personnel.

TECHNICAL SPECIFICATIONS

Model	**PowerWalker Inverter 650 SW**
Capacity (VA)	650
Capacity (Watts)	325
Input	
Input Voltage Range	Wide mode: 100VAC-280VAC Narrow mode: 190VAC-260VAC
Frequency Range	50/60Hz
Output	
On Battery Output Voltage	Sine Wave at 230Vac +/-10%
On Battery Output Frequency	50/60Hz
Overload Protection	On Utility: fuse On Battery: Internal Current Limiting
Physical	
Total # of Inverter Receptacles	(1) Type E or Type F
Maximum Dimensions (HxWxD) (mm)	115x205x146
Weight (Kg.)	4.0
Battery	
Lead Acid Battery	12VDC
Warning Diagnostics	
Indicators	AC Mode, Power On, Battery mode, Fault
Audible Alarms	Low Battery, Overload, Fault
Environmental	
Operating Temperature	0°C to 40°C
Operating Relative Humidity	0 to 95% NON-CONDENSING
Management	
Auto-Charger	Yes
Auto-Restart	Yes